5-3695-200-15

TM 5-3695-200-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE MANUAL

SAW, CHAIN GASOLINE DRIVEN; 18 INCH

(L-M MFG. CO. MODEL STRUNK G-3)
FSN 3695-765-7757

This copy is a reprint which includes current pages from Changes 2 and 4.

HEADQUARTERS, DEPARTMENT OF THE ARMY
AUGUST 1960

D 101.11:

READEX FICHE best copy available

TECHNICAL MANUAL

Operator, Organizational, Field and Depot Maintenance Manual

SAW, CHAIN: GASOLINE DRIVEN; 18 INCH (L-M MFG. CO. MODEL STRUNK G-3) FSN 3695-765-7757

TM 5-3695-200-15
Changes No. 3

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D.C., *17 April 1963*

TM 5-3695-200-15, 30 August 1960, is changed as follows:

Page 5 (As changed by C 3, 24 Oct 62) Under "OIL", line 2, delete MIL-L-2104 and substitute: MIL-L-15-16. Under "GAS", line 3, delete MIL-G-3056 and substitute: Regular grade Spec Fed VV-G-76.

Page 6. After title HOW TO START ENGINE (Added) Perform the daily preventive maintenance services, Appendix V.

Page 30.

3. Preventive Maintenance
(Added)

AR 743-505	Limited Storage of Corps of Engineers' Mechanical Equipment.
AR 750-5	Organization, Policies and Responsibilities for Maintenance Operations.
TM 5-505	Maintenance of Engineer Equipment.
TM 38-750	The Army Equipment Record System and Procedures.

Page 34.

4. Comments and Suggestions
(Superseded)

Suggestions and recommendations for changes to the Basic Issue Items List will be submitted on DA Form 2028 to the Commanding Officer, U. S. Army Mobility Support Center, ATTN: SMOMS-MS, P.O. Box 119, Columbus 16, Ohio. Direct communication is authorized.

Page 36.

APPENDIX V. Preventive Maintenance Services (Added)

1. General

To insure that the chain saw is ready for operation at all times, it must be inspected systematically, so that defects may be discovered and corrected before they result in serious damage or failure. The necessary Preventive Maintenance Services to be performed are listed and described in paragraphs 2 and 3. The item numbers indicate the sequence of minimum inspection requirements. Defects discovered during operation of the unit shall be noted for future correction, to be made as soon as operation has ceased. Stop operation immediately if a deficiency is noted during operation which would damage the equipment if operation were continued. All deficiencies and shortcomings will be recorded, together with the corrective action taken, on DA Form 2404 at the earliest possible opportunity.

2. Daily Preventive Maintenance Services

This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed by the operator. Daily services retain the same item numbers used in Quarterly Preventive Maintenance Services.

* These changes supersede C 3, 24 October 1962.

Therefore, Daily Preventive Maintenance Services may not be numbered consecutively but should be performed in the numerical sequence as shown to insure complete coverage. Refer to Figure 8.1 for the Daily Preventive Maintenance Services.

3. Quarterly Preventive Maintenance Services

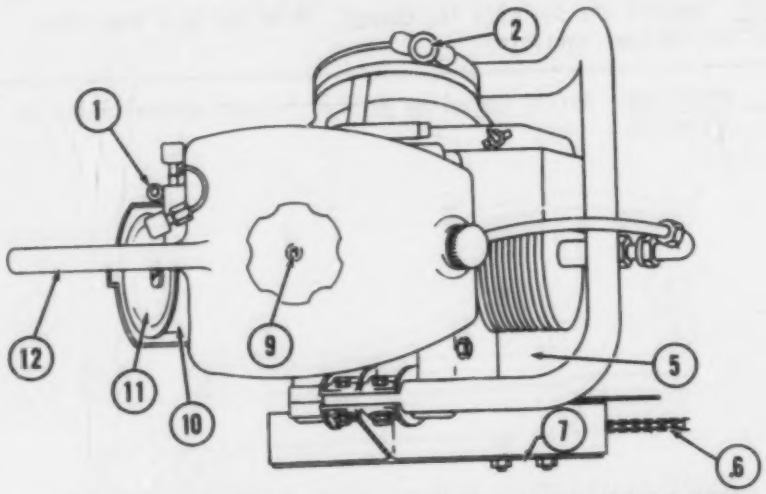
a. This paragraph contains an illustrated tabulated listing of preventive maintenance services which must be performed by Organizational Maintenance personnel at quarterly intervals. A quarterly interval is equal to 3 calendar months, or 250 hours of operation, whichever occurs first.

b. The item numbers are listed consecutively and indicate the sequence of minimum requirements. Refer to Figure 8.2 for the Quarterly Preventive Maintenance Services.

PREVENTIVE MAINTENANCE SERVICES

DAILY

TM5 3695-200-15 | L-M MFG. CO. MODEL STRUNK G-3 | CHAIN SAW



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	HAND PUMP. Inspect pump for wear, damage, and improper oiling. Inspect cover plate oil hole for plugged condition. Clean a dirty oil hole.	
2	STARTER, FAN SHROUD, AND SCREEN. Inspect screen and shroud for accumulations of dirt and sawdust. Clean a dirty screen and shroud.	
5	MUFFLER AND EXHAUST PORT. With muffler removed, inspect the 3 exhaust ports for carbon deposits. Clean dirty exhaust ports. (Weekly)	
6	CHAIN, GUIDE BAR, AND SPROCKET. Inspect these components for insecure mounting, wear, damage, improper alinement, and tension. Align and adjust as necessary.	
7	CHAIN TIGHTENER ASSEMBLY. Inspect tightener for wear, damage, and improper operation.	
9	OIL AND FUEL TANK. Inspect for leaks. Inspect cap and check valve for dirt, damage, and improper venting. Clean a dirty cap and valve. Adjust valve if necessary.	

Figure 8.1. (Added) Daily preventive maintenance services.

ITEM		PAR REF
10	CARBURETOR. Start engine, inspect for improper operation. Adjust carburetor if necessary.	
11	AIR FILTER. Inspect for accumulations of dirt and sawdust. Clean a dirty filter.	
12	CONTROLS. Inspect the controls for damage. With the unit operating, inspect for improper operation.	
	NOTE 1. OPERATION. During operation observe for any unusual noise or vibration.	

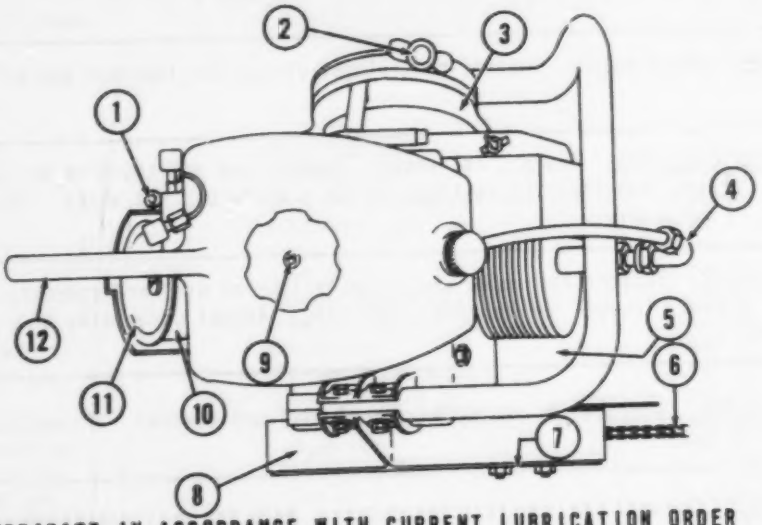
MSC 3695-200-15/8.1

Figure 8.1—Continued.

PREVENTIVE MAINTENANCE SERVICES

QUARTERLY

TM5 3895-200-15 | L-M MFG. CO. MODEL STRUNK G-3 | CHAIN SAW



LUBRICATE IN ACCORDANCE WITH CURRENT LUBRICATION ORDER

ITEM		PAR REF
1	HAND PUMP. Inspect pump for wear, damage, and improper oiling. Inspect cover plate oil hole for plugged condition. Clean a dirty oil hole.	
2	STARTER, FAN SHROUD, AND SCREEN. Inspect recoil starter mechanism for wear, damage, and improper operation. Inspect screen and shroud for accumulations or dirt and sawdust. Clean a dirty screen and shroud.	
3	MAGNETO. With flywheel removed, inspect contacts for burning, pitting and improper gap. Proper gap is 0.020 inch. (Check adjustment every 500 hours.)	
4	SPARK PLUG AND CABLE. Inspect cable for worn or frayed condition. Inspect plug for cracked porcelain, burned electrode, carbon deposit, and incorrect gap. Correct gap is 0.040 inch. (Check adjustment every 250 hours.)	
5	MUFFLER AND EXHAUST PORT. Inspect muffler for insecure mounting and damage. With muffler removed, inspect the 3 exhaust ports for carbon deposits. Clean dirty exhaust ports.	

Figure 8.2. (Added) Quarterly preventive maintenance services.

ITEM		PAR REF
6	CHAIN, GUIDE BAR, AND SPROCKET. Inspect these components for insecure mounting, wear, damage, improper alignment, and tension. Align and adjust as necessary.	
7	CHAIN TIGHTENER ASSEMBLY. Inspect for damage, and improper operation.	
8	CLUTCH. Start engine, inspect centrifugal clutch for improper operation.	
9	OIL AND FUEL TANK. Inspect for leaks. Inspect cap and check valve for dirt, damage, and improper venting. Clean a dirty cap and valve. Adjust valve if necessary.	
10	CARBURETOR. Inspect for leaks and accumulations of dirt and sawdust. Start engine, inspect for improper operation. Adjust carburetor if necessary.	
11	AIR FILTER. Inspect for accumulations of dirt and sawdust. Clean a dirty filter.	
12	CONTROLS. Inspect the controls for damage. With the unit operating, inspect for improper operation.	
	NOTE 1. OPERATIONAL TEST. During operation observe for any unusual noise or vibration.	
	NOTE 2. ADJUSTMENTS. Make all necessary adjustments during operational test.	

MSC 3395-200-15/8.2

Figure 8.2—Continued.

By order of the Secretary of the Army:

EARLE G. WHEELER,
General, United States Army,
Chief of Staff.

Official:
J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:
Active Army:

USASA (2)
DCSLOG (1)
CNGB (1)
TSG (1)
CofEngrs (3)
CSigO (1)
CofT (1)
USA Maint Bd (1)
USAARTYBD (2)
USAARMBD (2)
USAIB (2)
USARADBD (2)
USAAESWBD (2)
USAAVNBD (2)
USCONARC (3)
USAMC (5)
Os Maj Comd (5) except
USARJ (10)
MDW (1)
Armies (2)
Corps (2)
USA Corps (1)
Div (2)
Engr Bde (1)
USMA (2)
Svc Colleges (2)
Br Svc Sch (2) except
USAES (100)
GENDEP (OS) (10)
Engr Dep (OS) (10)
Army Dep (2)
USA Trans Tml Comd (2)
Army Tml (1)
USAOSA (2)
Engr Dist (2)
Div Engr (2)
Engr Fld Maint Shops (2)
USAERDL (3)
Engr Cen (5)
AMS (3)
Chicago Engr Proc Ofc (10)
USA Mbl Spt Cen (36)
ESCO (10)
Fld Comd, DASA (8)
USACOMZEUR (2)
USAREUR Engr Sup Con
Agcy (10)
USAREUR Engr Proc
Cen (2)
MAAG (1)
JBUSMC (1)
Units org under fol TOE:
5-5 (2)
5-6 (2)
5-7 (2)
5-15 (2)
5-16 (2)
5-17 (2)
5-25 (2)
5-27 (2)
5-35 (2)
5-37 (2)
5-33 (2)
5-45 (2)
5-47 (2)
5-48 (2)
5-77 (2)
5-127 (2)
5-137 (2)
5-145 (2)
5-147 (2)
5-155 (2)
5-157 (2)
5-225 (2)
5-227 (2)
5-237 (5)
5-262 (5)
5-267 (1)
5-278 (5)
5-279 (2)
5-387 (2)
5-500 (EA, EL, GD) (2)
7-11 (2)
7-12 (2)
7-100 (2)
11-25 (2)
11-27 (2)
17-75 (2)
17-78 (2)
17-100 (2)
17-105 (2)
17-108 (2)
17-135 (2)
17-408 (2)
29-52 (1)
29-56 (2)
29-57 (2)
29-409 (2)
37-100 (2)
39-51 (2)
39-61 (2)
57-100 (2)

NG: State AG (3); Units—Same as Active Army except allowance is one copy to each unit.
USAR: Units—Same as Active Army except allowance is one copy to each unit.
For explanation of abbreviations used see AR 320-50.

☆ U. S. GOVERNMENT PRINTING OFFICE: 1962— 650510/8810A

TECHNICAL MANUAL

Operator, Organizational, Field, and Depot Maintenance Manual

SAW, CHAIN: GASOLINE DRIVEN; 18 INCH
(L-M MFG. CO. MODEL STRUNK G-3)
FSN 3695-765-7757

TM 5-3695-200-15
CHANGES No. 2

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON 25, D.C., *14 August 1962*

TM 5-3695-200-15, 30 August 1960, is changed as follows:

Page 35, Section II, Basic Issue Items List. Make the following change in item (as added by C 1, 7 July 1961):

Source codes				Federal stock No.	Description	Unit of issue	Expendability	Quantity authorized	Quantity issued with equipment
Technical service	Source	Maintenance	Recoverability						
5	P	O	.....	5110-064-6899	2602.3 SPECIAL TOOLS FILE, CHAIN SAW: round 1/4 in. dia, 8 in. lg. (05665) G318904	.....	.....	1	*

* These changes supersede C 1, 7 JULY 1961.

BY ORDER OF THE SECRETARY OF THE ARMY:

G. H. DECKER,
General, United States Army,
Chief of Staff.

Official:

J. C. LAMBERT,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

USASA (2)
DCSLOG (1)
CNGB (1)
Tech Stf, DA (1) except
  CofEngrs (3)
Army Maint Bd (1)
USCONARC (3)
USAARTYBD (2)
USAARMBD (2)
USAIB (2)
USARADBD (2)
USA Abn, Elct, & SPWAR Bd (2)
USAAVNBD (2)
ARADCOM (2)
ARADCOM Rgn (2)
OS Maj Comd (5) except
  USASETAF (2)
  USARJ (10)
MDW (1)
Armies (2)
Corps (2)
Div (2)
Engr Bde (1)
Svc Colleges (2)
Br Svc Sch (2) except
  USAES (100)
USMA (2)
GENDEP (2) except
  Schenectady GENDEP (4)
  Atlanta GENDEP (4)
  Utah GENDEP (4)
  Memphis GENDEP (4)
  Sharpe GENDEP (4)
Engr Sec, GENDEP (10)
Engr Dep (10) except
  Granite City Engr Dep (14)
OSA (2)
Engr Dist (2) except
  Buffalo Engr Dist (1)
  Chicago Engr Dist (1)
  Detroit Engr Dist (1)
  Alaska Engr Dist (1)
  Los Angles Engr Dist (1)
  New Orleans Engr Dist (1)
  New York Engr Dist (1)
  Louisville Engr Dist (1)
  Pittsburgh Engr Dist (1)
San Francisco Engr Dist (1)
Omaha Engr Dist (1)
Seattle Engr Dist (1)
Kansas City Engr Dist (1)
Baltimore Engr Dist (1)
Ft Worth Engr Dist (1)
Eastern Ocean Engr Dist (1)
Philadelphia Engr Dist (1)
Rock Island Engr Dist (1)
St Louis Engr Dist (1)
St Paul Engr Dist (1)
Div Engr Dist (2) except
  Lower Miss Valley Div Engr (none)
  North Central Div Engr (none)
Engr Fld Maint Shops (2)
Engr Dep Maint Shops (2)
USAERDL (3)
Engr Cen (5)
AMS (3)
USA Engr Proc Ofc (10)
EMC (26)
ESCO (10)
Fld Comd, DASA (8)
Def Log Svc Cen (1)
USACOMZEUR (2)
USAREUR Engr Sup Con Agcy (10)
USAREUR Engr Proc Cen (2)
USA Corps (1)
MAAG (1)
JBUSMC (1)
USA Trans Tml Comd (2)
Army Tml (2)
Units org under fol TOE:

5-5 (2)	5-48 (2)	5-278 (5)	17-100 (2)
5-6 (2)	5-77 (2)	5-279 (2)	17-105 (2)
5-7 (2)	5-127 (2)	5-387 (2)	17-108 (2)
5-15 (2)	5-137 (2)	5-500 (EA,	17-135 (2)
5-16 (2)	5-145 (2)	EB, GD)	17-408 (2)
5-17 (2)	5-147 (2)	(2)	29-52 (1)
5-25 (2)	5-155 (2)	7-11 (2)	29-56 (2)
5-27 (2)	5-157 (2)	7-12 (2)	29-57 (2)
5-35 (2)	5-225 (2)	7-100 (2)	37-100 (2)
5-37 (2)	5-227 (2)	11-25 (2)	39-51 (2)
5-38 (2)	5-237 (5)	11-27 (2)	39-61 (2)
5-45 (2)	5-262 (5)	17-75 (2)	57-100 (2)
5-47 (2)	5-267 (1)	17-78 (2)	

NG: State AG (3); units—same as active Army except allowance is one copy to each unit.
USAR: Units—same as active Army except allowance is one copy to each unit.
For explanation of abbreviations used, see AR 320-50.

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TECHNICAL MANUAL
NO. 5-3695-200-15

HEADQUARTERS,
DEPARTMENT OF THE ARMY,
WASHINGTON 25, D. C., *30 August 1960*

OPERATOR, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE MANUAL

SAW, CHAIN: GASOLINE DRIVEN; 18 INCH (L-M MFG. CO. MODEL STRUNK G-3)

FSN 3695-765-7757

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INTRODUCTION

READ THIS MANUAL CAREFULLY before starting saw. By understanding the manual, the operator will have trouble-free operation for the saw. DO NOT [illegible] MAINTENANCE OF THIS SAW [illegible].

DO NOT ABUSE THE SAW.

USE PROPER FUEL MIXTURE.

Refer to Fuel and Lubrication Section for recommended mixtures. (Page 5)

ADEQUATELY LUBRICATE BAR AND CHAIN.

Refer to Fuel and Lubrication Section for recommended lubrication. (Page 5)

KEEP CHAIN SHARP AND MAINTAIN PROPER TENSION.

Refer to Assembly and Filing Instructions. (Pages 3 and 13)

SERVICE THE GUIDE BAR.

Refer to Guide Bar Maintenance Section. (Page 10)

KEEP SAW CLEAN.

Dirt and dust will hamper the operation of the saw by clogging air filter, engine cooling fins and by hiding loose bolts.

TIGHTEN BOLTS DAILY.

Vibration in the engine will cause nuts and bolts to eventually work loose. Check all nuts and bolts after daily use.

IDENTIFYING THE SAW.

The saw is identified by a model number and a serial number. The model number is STRUNK G3, and the serial number is as listed.

SAFETY PRECAUTIONS

A GOOD CHAIN SAW OPERATOR IS A SAFE OPERATOR. The safe operation of a power saw rests entirely with the operator.

For safe operation, observe the following rules:

(1) Wear safe clothing. (See Figure 1, this page.)

FIGURE 1 - PROPER CLOTHING FOR SAFETY.

(2) The safe way to carry a chain saw is as follows:

(a) Keep cutter bar to rear.

(b) Never carry saw with chain turning

(c) Stop the saw when moving from tree to tree.

(3) Care should be exercised to avoid the following when operating a chain saw:

(a) Stumbling while the chain saw is in operation

(b) Being cut by the chain while felling or while filing and repairing it.

(c) Injuries from starting gasoline motors

(d) Contact with cylinder head or hot muffler.

(e) Being struck by snags or rolling logs due to inability to hear because of noise of gasoline motor.

(4) The safe way to start a chain saw is:

Rest the saw on the ground or some flat, solid surface to start. (Do not attempt to start saw by holding it in one hand and pulling the starter cable with the other.)

ASSEMBLING YOUR SAW

ABSOLUTELY DO NOT ASSEMBLE YOUR SAW WITHOUT READING THE INSTRUCTIONS CONCERNING ASSEMBLY, FUEL AND LUBRICATION, HOW TO START ENGINE, HOW TO STOP ENGINE AND THE GENERAL OPERATING INSTRUCTIONS.

ASSEMBLY

Remove the two nuts (Ref. No. 74); remove sprocket guard plate (Ref. No. 72); remove spacers (Ref. No. 71); the chain tightener assembly (Ref. No. 68); install the fiber gasket (Ref. No. 65); install guide bar (Ref. No. 66) on studs (Ref. No. 64). Remove the chain (Ref.No.75) from its container and loop over the guide bar (Ref. No. 66) making sure that the cutters on top of the guide bar (Ref. No. 66) are facing forward.

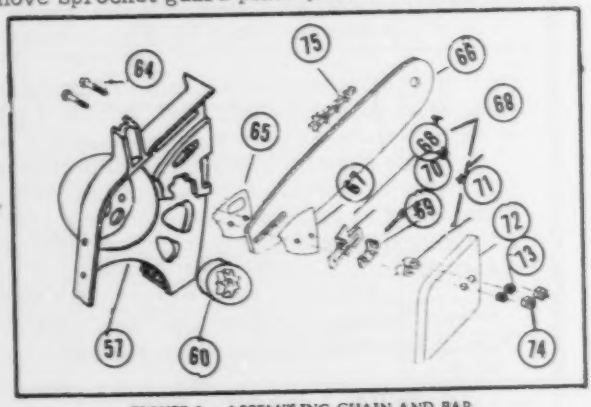


FIGURE 2 - ASSEMBLING CHAIN AND BAR.
(Reference numbers shown on Legend, Figure 29).

Loop chain (Ref. No. 75) over sprocket (Ref. No. 60). (It may be necessary to slide the guide bar (Ref. No. 66) toward the sprocket (Ref. No. 60). Install steel guide bar gasket (Ref. No. 67) on the studs; reinstall chain tightener (Ref. No. 68); and make sure lug is in guide bar slot. Install spacers (Ref. No. 71); sprocket guard plate (Ref. No. 72) and nuts (Ref. No. 74). Tighten nuts lightly, then adjust tension by tightening screw (Ref. No. 70 until chain is as shown on drawing illustrating correct tension (Fig. 3, page 4). Then tighten nuts (Ref. No. 74) securely.

NOTE

A NEW CHAIN WILL STRETCH CONTINUOUSLY DURING FIRST FEW HOURS OF OPERATION. CHECK CHAIN TENSION FREQUENTLY DURING THIS PERIOD.

CHAIN TENSION

DO NOT RUN YOUR SAW WITH A TIGHT CHAIN --- the result will be failure of the guide bar within a few minutes. (See illustration, Fig. 3, page 4 on correct chain tension.)

DO NOT RUN YOUR CHAIN TOO LOOSE --- it will cause damage to the drive links and the rear end of the guide bar.

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

ASSEMBLING YOUR SAW [CONTINUED]

DO NOT OPERATE YOUR SAW WITH THE ENGINE RUNNING AT A HIGH SPEED UNDER NO LOAD (not actually cutting) as chain damage will result, especially if the chain is loose. A new chain will stretch during the first few hours of operation.

CHECK TENSION ON CHAIN FREQUENTLY DURING THIS PERIOD.

TO ADJUST TENSION ON CHAIN

1) Loosen nuts (Ref. 74, Fig. 2, Page 3) holding chain tightener.

2) Adjust tension on chain by turning adjusting screw (Ref. No. 70, Figure 2, Page 3) on chain tightener (Ref. No. 68, Figure 2, Page 3).

3) Be sure to tighten chain to proper tension (Figure 3, this page). The operator should be able to lift bottom of the chain from center of guide bar approximately 1/2". Adjust tension accordingly to get proper clearance.

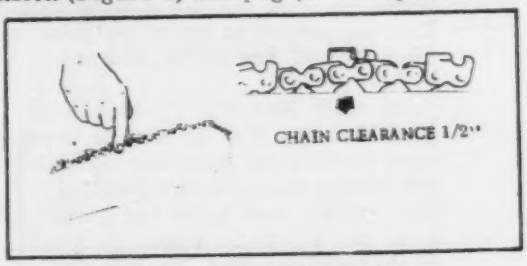


FIGURE 3 - PROPER CHAIN TENSION.

4) Tighten nuts (Ref. No. 74, Figure 2, Page 3) securely, holding chain tightener.

5) ***NOTE-*** A new chain will stretch during first few hours of operation. Check chain clearance (Figure 3, this page) frequently during this period.

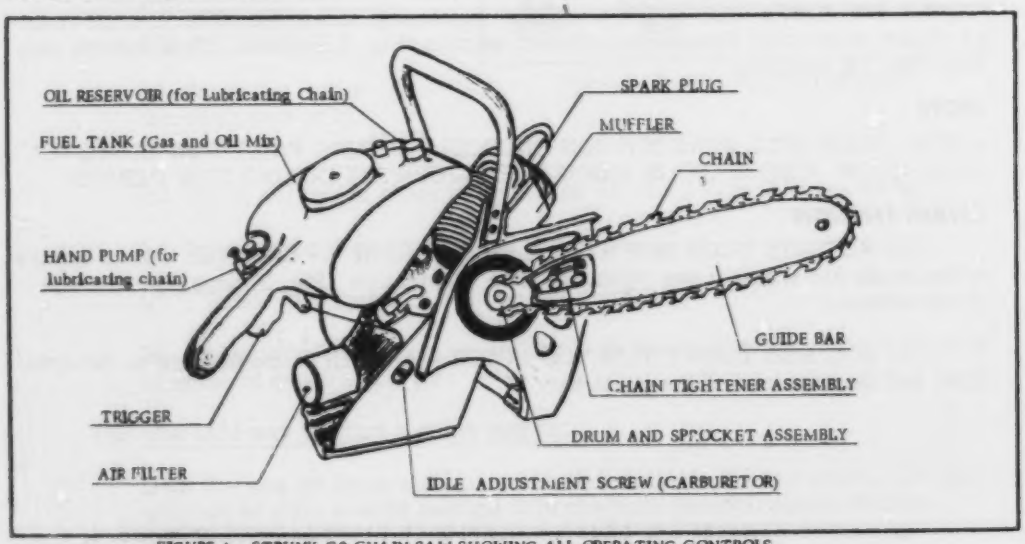


FIGURE 4 - STRUNK G3 CHAIN SAW SHOWING ALL OPERATING CONTROLS.

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

LUBRICATION ORDER

LO 5-3695-200-15

SAW, CHAIN; GASOLINE ENGINE DRIVEN, 18 INCH CUT, (L-M MFG CO. STRUNK MODEL G3)

REFERENCE: SM 10-1-C4-1

Intervals are based on normal operations. Reduce to compensate for abnormal operation and severe conditions. During inactive periods sufficient lubrication must be performed for adequate preservation.

Relubricate after washing.

Clean parts with SOLVENT, dry-cleaning, or with OIL, fuel, Diesel. Dry before lubricating.

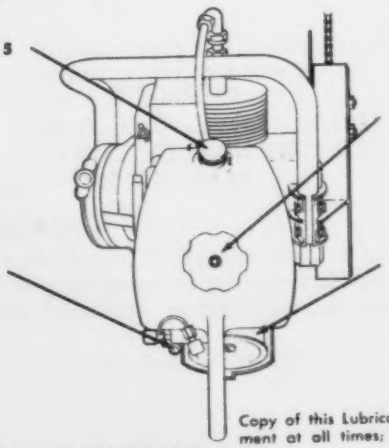
– KEY –

LUBRICANT	CAPACITY	EXPECTED TEMPERATURE			INTERVAL
		Above +32°F	+40°F to –10°F	0°F to –65°F	
2190-LUBRICATING OIL, General Purpose		2190	2190	2190	Intervals given are in hours of normal operation.
Fuel Tank (See note 2.)					
Oil Reservoir	3/16 qt.	2190	2075	2075	

LUBRICANT • INTERVAL

Guide Bar Oil Reservoir 2190 5
(Check level.)

Guide Bar Oil Pump
(Operate pump by hand to keep a film of oil on the chain at all times during operation.)



INTERVAL • LUBRICANT

2190 Fuel Tank
(See note 2.)

10 Air Cleaner
(Brush off with wire brush; every 50 hours disassemble, clean in SOLVENT, dry and reassemble. DO NOT OIL.)

NOTES:

1. FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW –10°F. Remove lubricants prescribed in the key for temperatures above –10°F. Clean parts with SOLVENT, dry-cleaning. Relubricate with lubricants specified in the key for temperatures below –10°F.
2. FUEL TANK. Mix thoroughly 3/8 qt. 2190 oil with each gallon of gasoline before pouring into fuel tank.
CAUTION: Do Not Use Detergent Oil.

Copy of this Lubrication Order will remain with the equipment at all times; instructions contained herein are mandatory.

BY ORDER OF WILBER M. BRUCKER,
SECRETARY OF THE ARMY:

L. L. LEMNITZER
General, United States Army,
Chief of Staff

OFFICIAL:

R. V. LEE
Major General, United States Army,
The Adjutant General

EMC 3695–200–15/4.1

FUEL and LUBRICATION

Lubrication and proper fuel mixture are essential to the long and useful life of the chain saw. Extreme care should be used that the recommendations for lubrication and fuel mixture be followed accurately, otherwise the engine can be seriously damaged.

ENGINE LUBRICATION

The engine is lubricated by mixing oil with the fuel. There is no oil in the crankcase as in 4-cycle engines. Too rich a mixture or too much oil will lessen the power of the saw. Too little or too lean a mixture can cause overheating and scoring of piston and cylinder requiring costly repairs. The oil tank assembly chamber of the tank assembly contains oil for lubricating chain. (See Figure 5, this page) This is separate from the fuel chamber which contains a mixture of gas and oil.

FIGURE 5 - FUEL & OIL TANK ASSEMBLY.

-----ENGINE FUEL MIXTURE-----

During the break-in period (first 8 hours operation) use:

1 pint or 16 oz. oil to each gallon of gasoline.

After break-in period use:

¾ pt. or 12 oz. oil to each gallon of gasoline.

CAUTION- The fuel mix should be mixed in a separate container - not in the fuel tank of the saw.

OIL- It is important that the equivalent of a #30 civilian non-detergent engine oil be used. The proper Military Specification oil for this use is
Refer to the current Lubrication Order (LO 5-3695-200-15).

GAS- It is likewise important that the equivalent of a civilian non-ethyl (no lead) gasoline be used. ABSOLUTELY DO NOT USE HIGH TEST ETHYL GASOLINE. The proper Military Specification gasoline for this use is

CHAIN and GUIDE BAR LUBRICATION

The oil reservoir, located in the front part of the gas tank, is a constant source of oil for lubrication of chain and guide. Use your pump to provide sufficient oil to keep the chain and guide constantly lubricated during operation. Before starting saw, be sure to pump oil on bar and chain.
Refer to the current Lubrication Order (LO 5-3695-200-15).

CAUTION- Keep oil reservoir filled at all times. Do not run chain and guide without oil. Use clean oil only.

FACTS ON THE ENGINE

FUEL MIXTURE	See instructions on Page 5.
ENGINE SPEED	4000-6000 R.P.M.
MAGNETO POINT SETTING	.020 inch
SPARK PLUG GAP	.040 inch
MUFFLER & EXHAUST PORTS	Clean after every 50 hrs. use.
SPARK PLUG	AR6S
FUEL TANK CAPACITY	40 oz.
OIL RESERVOIR CAPACITY	6 oz.

GENERAL OPERATING INSTRUCTIONS

HOW TO START ENGINE

Open gas shut-off valve (Ref. 7, Fig. 30, page 24) located on bottom of gas tank. Operate oil hand pump plunger until oil is seen at guide bar.

1. Move choke lever to choke position.
2. Turn toggle switch located on air shroud to "on" position (Ref. 49, Fig. 30, Page 24.)
3. With right hand, grasp the trigger holding it back. Rest knee against gas tank. With left hand, pull rewind starter back. When starting engine, it is important to know how to use starter. It is not to be pulled suddenly back with a powerful jerk. Instead, first pull gradually back, approx. 3" until starter engages-then, with continuous movement, pull straight backwards approximately 1' more.
4. After engine starts and as it warms up gradually open choke by moving choke lever forward.
5. After engine heats up, choking is not necessary for restarting. Flooding will be caused by too much choking. Should engine flood, continue cranking with choke open (in off position) and with valve at tank shut off, until engine starts.

HOW TO STOP ENGINE

Turn toggle switch, located on air shroud (Ref. #49, Fig. 30, page 24) to "off" position.

IMPORTANT

At end of each day's operation, close fuel shut off valve and let engine run until it stops. This uses up all the fuel in the carburetor and permits easy starting the next time the saw is used.

FIGURE 6 - FELLING

FIGURE 7 - BUCKING

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

GENERAL OPERATING INSTRUCTIONS [Continued]

CUTTING

A safe rule to follow when cutting with a chain saw is: If you cannot make a cut with a crosscut saw, you cannot cut it with a chain saw. In other words, if the tree or log will bind on you with a crosscut saw, it will bind with a chain saw.

POSITIONS OF CUTTING

The Model STRUNK G3 Chain Saw is equipped with a Fuel Pump Diaphragm Carburetion System which permits cutting in all positions, even upside down.

HOW TO CUT WITH THE SAW

Pull the trigger back to full throttle. The saw is designed to give effortless cutting. It is not necessary to bear down on the log with great force trying to force the chain through. Keep the engine speed up and allow the chain to cut its own way through the log.

IMPORTANT

The check valve (Ref. No. 12, Fig. 8, this page) is located in the fuel tank cap (Ref. No. 9, Figure 8, this page) and admits air into the tank without fuel splashing out, as it would through a vent hole.

See that the screw top part of the check valve is not screwed too tightly against the ball in the valve. This screw should be open approximately one and one-half turns so there is a slight drip when fuel is against it.

(If too tight, air is not admitted and a vacuum forms, stopping fuel flow.)

This will allow the saw to run for a short time and stop. A quick check would be to loosen the cap and operate the saw - --if it operates properly, the check valve should be loosened a quarter turn and the cap tightened.

In case of excessive fuel drip through the valve, tighten only one-eighth turn at a time until drip is lessened.

FIGURE 8 - GAS CAP & CHECK VALVE ASSY.
(Reference numbers shown on Legend, Figure 29).

CENTRIFUGAL CLUTCH

The Model STRUNK G3 Chain Saw has a Centrifugal Clutch. When the engine idles, the clutch does not engage, as the engine speed increases, the clutch engages. If the chain is caught in a pinch or bind, the engine speed is reduced and the clutch disengages. Do not speed up the engine until you have relieved the bind to prevent damage to the clutch, necessitating replacement.

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

MAINTENANCE

IMPORTANT-Tighten all bolts after each day's use.

These service and maintenance instructions are sufficient only for adjustment and maintenance.

ENGINE MAINTENANCE

AIR FILTER

The engine must have clean air to operate properly. A dirty air filter cuts down the efficiency of the engine by decreasing the flow of air. Brush the air filter daily with a bristle brush to remove sawdust and dirt. Once a week, the filter element should be removed and rinsed in clean gasoline, then dried thoroughly before replacing it on saw. Do not tighten the air filter too tightly as it will restrict the flow of air.

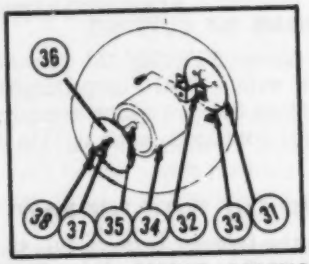


FIGURE 9 - AIR FILTER ASSEMBLY.
(Reference numbers shown on Legend, Figure 30.)

CARBURETOR MAINTENANCE and ADJUSTMENTS

Carburetor maintenance is restricted to adjustment of the Idle Mixture Adjustment Needle and the Main Mixture Adjustment Needle, (See Figure 10, this page) and maintaining the carburetor in a clean condition. Follow the general rules prescribed for cleanliness of parts in doing this.

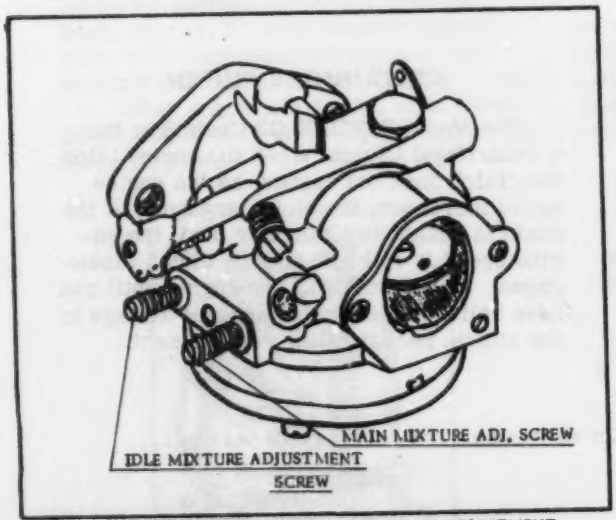


FIGURE 10 - CARBURETOR, SHOWING POINTS OF ADJUSTMENT.

1) The usual setting of the Idle Mixture Adjustment Needle Screw is approximately 3/4 turn open from fully closed. (See Figure 10, this page).

2) The usual setting of the Main Mixture Adjustment Needle Screw (See Figure 10, this page) is 1 1/4 turns open from fully closed. To check the setting, warm up the engine for several minutes. If the saw runs unevenly or lacks power, the adjustment is too rich; gradually turn screw clockwise until engine levels out and pulls best in cut. Usually the best setting is 1 1/4 to 1 1/2 turns open.

Too lean a mixture will give insufficient lubrication and damage the engine.

MAINTENANCE [CONTINUED]

CARBURETOR [CONTINUED]

Starting the saw when cold with a diaphragm carburetor requires long choking, since the diaphragm must pump fuel in before the engine will start. In starting an engine that has been running for some time, the use of the choke lever varies with the length of time the engine was stopped.

Warming an engine is necessary only until the engine pulls well in a cut at full throttle.

SPARK PLUG

The spark plug should be cleaned periodically. A dirty plug makes starting hard and lessens power. Gap setting should be .040. When in doubt about the condition of a plug, replace with a new one.

MUFFLER and EXHAUST PORT

Muffler and exhaust ports must be cleaned every 50 hours of engine use to prevent loss of power in the engine. To clean cylinder exhaust ports, remove the muffler (Ref. No. 44, Fig. 29 Page 22). Remove the spark plug (Ref. No. 14, Fig. 30, Page 24) and crank starter until piston is at bottom of its stroke, with a blunt instrument. Scrape carbon from the 3 cylinder exhaust openings so they are completely clear and remove carbon from exhaust chamber.

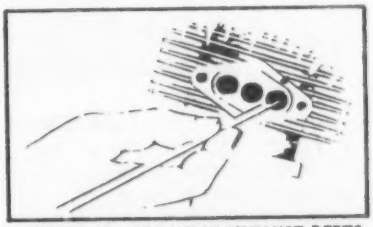


FIGURE 11 - CLEANING EXHAUST PORTS.

Blow out the loosened carbon by pulling starter through several times.

ENGINE CLEANLINESS

To prevent engine damage and to facilitate inspection, maintain cleanliness of the engine at all times.

An easy method of cleaning the engine is with compressed air, or by brushing it off with a stiff bristle brush.

Clean air filter regularly (See page 8, (Engine Maintenance, Air Filter) of these instructions).

OILING SYSTEM MAINTENANCE

It is important that there be a constant flow of oil on the chain when the saw is in operation.

The small hole in the cover plate (Ref. No. 57, Fig. 29, Page 22) which directs the oil to the guide bar should be checked daily to insure that it is not plugged.

GENERAL SERVICE INFORMATION on PUMPS

The pump assembly, as shown in the drawing (Figure 13, this page) is dependent upon the action of two check valves. As assembled at the factory, these valves are set at proper tension and the ball is fitted to the seat.

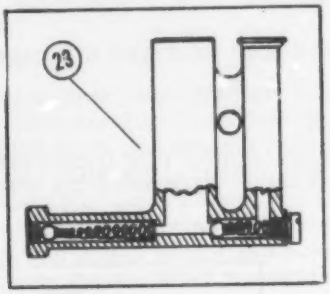


FIGURE 12 - OIL PUMP CUTAWAY

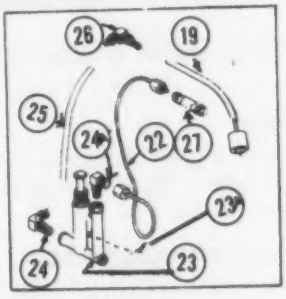


FIGURE 13 - OILING SYSTEM PARTS

(REFERENCE NUMBERS SHOWN ON LEGEND, FIGURE 29, PAGE 22.)

If the spring tension is incorrect, or dirt is introduced into the pump, the pump will not operate properly. In case of failure, remove the pump, then remove elbow assembly (Ref. No. 24, Figure 13, this page) and the screw at the opposite end of the pump body (Ref. No 23A, Figure 13, this page). This exposes both balls and springs for removal and cleaning in an approved cleaning solvent.

CHAIN MAINTENANCE

IMPORTANT

KEEP YOUR CHAIN SHARP

It takes only a few minutes to touch up the chain. A chain should be sharpened lightly after each full day of use. Follow the directions in this manual for chain sharpening (Page 13). BE SURE TO USE A ROUND CHAIN SAW FILE, SIZE 1/4".

A properly sharpened chain will produce clean shavings when cutting. Always look for these. If instead of shavings, the chain is throwing out dust - the chain is not properly sharpened.

GUIDE BAR

To insure the long life of your guide bar, be sure that it is properly lubricated at all times. Reverse the bar after every eight hours use in order to have uniform wear

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

GUIDE BAR [CONTINUED]

on both sides. Watch for uneven wear or spreading of guide bar rails. Clean the guide bar groove periodically, as dirt and grime cause excessive wear.

There are three major forms of guide bar wear which will be noticed completely around the guide bar.

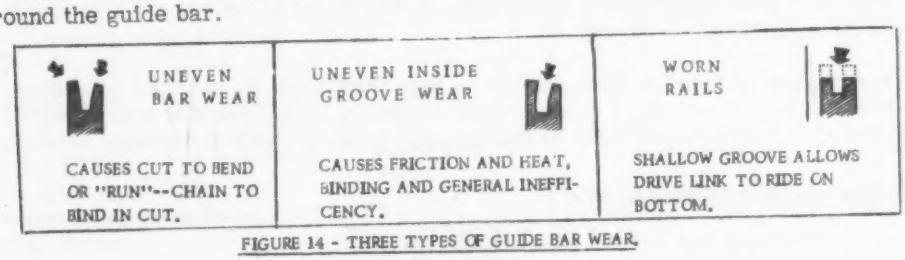

UNEVEN BAR WEAR
CAUSES CUT TO BEND OR "RUN"--CHAIN TO BIND IN CUT.
UNEVEN INSIDE GROOVE WEAR
CAUSES FRICTION AND HEAT, BINDING AND GENERAL INEFFICIENCY.
WORN RAILS
SHALLOW GROOVE ALLOWS DRIVE LINK TO RIDE ON BOTTOM.

FIGURE 14 - THREE TYPES OF GUIDE BAR WEAR.

In addition to these points of normal maintenance, "dressing" your guide bar with a flat file whenever required will further add to its life. This is necessary as the guide bar rail surface must be flat and uniform if the proper support of the chain is to be maintained.

If guide bar rails are not flat and uniform, chipping can result from the rough edges on the rails.

"Dress" your guide bar with a 12" smooth, flat file as soon as top of the rails are not uniform or whenever any thin edges appear along sides of guide bar rails. Tops of rails must be square with each other and square with side surface of the guide bar.

FILING YOUR GUIDE BAR IS A NECESSARY MAINTENANCE OPERATION.

MAINTENANCE of CHAIN, GUIDE BAR and SPROCKET

Satisfactory performance of your Model STRUNK G3 Chain Saw depends on your Chain, Guide Bar and Sprocket being in top notch condition. Keep your chain sharp (See Filing Instructions, Page 13) and be sure that depth gauges are set properly (Figure 18, Page 13)

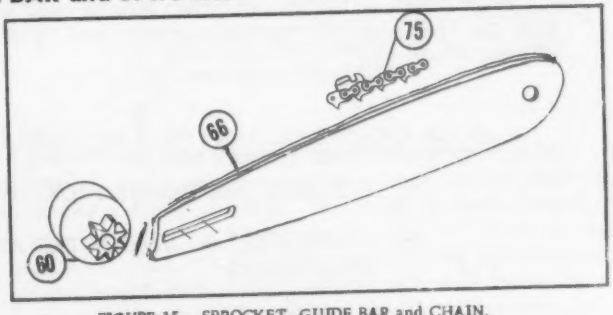


FIGURE 15 - SPROCKET, GUIDE BAR and CHAIN.
(Reference numbers shown on Legend, Figure 29).

MAINTENANCE [CONTINUED]

MAINTENANCE of CHAIN, GUIDE BAR and SPROCKET [CONTINUED]

When repairing a used chain, use correct parts and check for proper tension, fit and direction of parts.

File back new cutters and depth gauges to match old parts. Avoid attempting to repair excessively worn chain.

See that bar channel is deep enough so that drive links do not ride on bottom of channel and prevent chain from seating properly. Keep sawdust out of bar grooves as it can damage chain by building up, causing chain to stretch.

CORRECT BAR GROOVE DEPTH

1. Minimum bar groove depth should be 3/8".
2. When groove is too shallow, drive links ride on bottom of bar groove channel, and do not allow tie straps to ride on bar rails.
3. Replace with new bar if bar groove is too shallow.

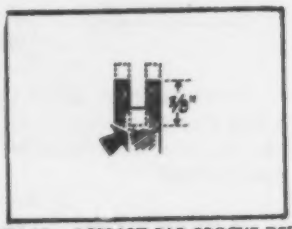


FIGURE 16 - CORRECT BAR GROOVE DEPTH.

DO NOT USE A BADLY WORN OR DAMAGED SPROCKET.

Do not put a new chain on a used sprocket. Install a new sprocket at the same time for proper operation.

REMEMBER-

Your Model STRUNK G3 Chain Saw is only as good as the condition of your Chain, Bar and Sprocket and the maintenance and care given to these important components of your chain saw.

YOUR CHAIN SAW CAN ONLY CUT WELL WITH:

(1) A SHARP, PROPERLY FILED CHAIN.

(2) A BAR WELL LUBRICATED AND PROPERLY MAINTAINED.

(3) A SPROCKET IN GOOD CONDITION.

FILING INSTRUCTIONS

▼

Always hold your file in one position, that is horizontal (level with the cutter plate), and at a 45° angle to the chain.

▼

REMEMBER- The tooth is simple to file. Just hold file in one position . . . level and at a 45° angle to the cutting tooth . . . and use firm, even filing strokes.

FIGURE 17 - CORRECT ANGLE ON CUTTING CHAIN.

▼

Use only a 1/4" round straight (not rat-tail) file.

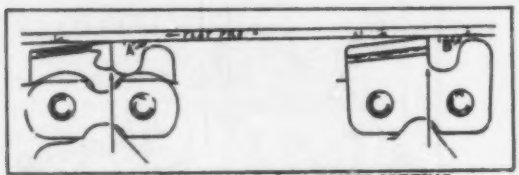


FIGURE 18 - CHECKING THE DEPTH GAUGE SETTING.

▼

To check depth gauge clearances "A" and "B" lay a straight edge (such as a flat file) on top of two cutters and measure with a feeler gauge.

▼

Depth gauge clearance is shown at "A" and "B". As the teeth of the chain are filed back, the depth gauges on the chain must be filed down to maintain clearances "A" and "B".

▼

IN NO CASE IS A CLEARANCE OF MORE THAN .025 OR LESS THAN .020 INCH RECOMMENDED.

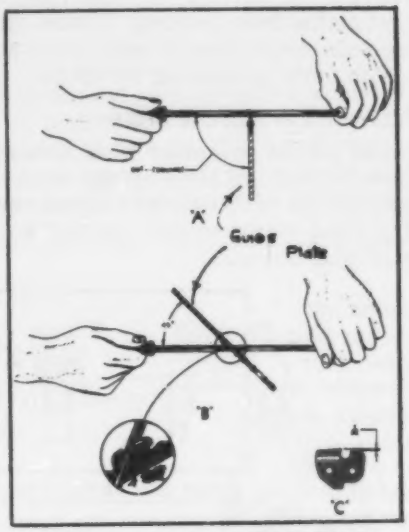


FIGURE 19 - CORRECT POSITION OF FILE IN SHARPENING CHAIN.

▼

To sharpen chain, use a 1/4" round chain saw file. Initially the only filing necessary will be to sharpen the front angle of the cutting chain. Hold file level at an angle of approximately 45° as shown in "A" and "B".

Two or three firm forward strokes of the file will put a keen cutting edge on tooth. When filing exert a slight upward pressure so that radius of the file will sharpen top cutting edge.

▼

As the cutting teeth wear, it will be necessary to "joint" or file down rider in front of tooth. The rider governs depth of chip each tooth pulls, and is ground at the factory .020 inch below front cutting edge of tooth, "C". As tooth wears back, this front cutting edge of tooth automatically lowers due to the clearance angle on top of tooth; to maintain difference between tooth and rider, rider should be lowered.

DIS-ASSEMBLY, RE-ASSEMBLY AND SERVICE INSTRUCTIONS

NOTE-- To service the clutch and magneto, a piston stop must be utilized to prevent piston from moving. Piston stop should be screwed into the spark plug opening and extend down at least one-half inch into the cylinder. This will prevent the piston from completing its cycle.

TO MAKE A PISTON STOP

Break off the porcelain from an old plug, insert a piece of steel or bar stock through the center of the plug and braze. The steel should extend one-half inch beyond plug threads.

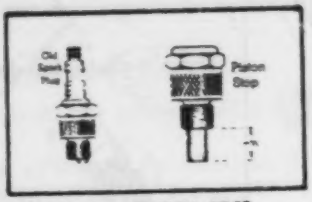


FIGURE 20 - PISTON STOP

We do not recommend a punch or screwdriver through exhaust ports, as this method of stopping the piston very often damages the piston and cylinder assembly.

TO REMOVE CLUTCH

Remove chain tightener, gasket, chain guard, guide bar and chain. (Reference numbers 68, 67, 65, 66 and 75, Figure 29, Page 22.)

Take 5/8 box end wrench and place on nut at end of crankshaft. (This nut has a left hand thread). Have unused end of the wrench pointed toward front of saw and strike the end of the wrench sharply with a hammer. (This nut must be loosened by impact, and the purpose of these blows is to create a sharp impact to break the nut loose). (Or use piston stop as shown in Figure 20, this page). After nut is removed, next remove large sprocket washer (Ref. No. 62, Figure 21, this page) and the drum and sprocket assembly (Ref. Nos. 61 and 60, Figure 21, this page). (At this point, extreme care should be exercised to note the number of shims beyond the bushing and bearing against the clutch. (Ref. Nos. 55 and 56, Figure 21, this page). These shims should be replaced exactly in the order that they are removed, providing the same clutch is being replaced. If a new clutch is being replaced, follow instructions on number and placement of shims.

Next remove the clutch (Ref. Nos. 54, 52 and 53, Figure 21, this page) and also remove the key (Ref. No. 51, Figure 21, this page). Do not remove the spacers that are behind the clutch --- leave in exactly the same position as found.

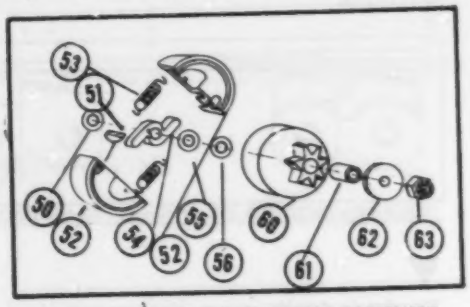


FIGURE 21 - CLUTCH AND SPROCKET ASSEMBLY.
(Reference numbers shown on Legend, Figure 29.)

If a new clutch is required, it is extremely necessary that in replacing, the proper number of shims be placed on the shaft after the clutch is put on. The purpose of the shims is as follows:

It is extremely necessary that the bronze bushing upon which the clutch drum and sprocket rotates is held solid to the crankshaft. This is done by seeing that the bushing protrudes very slightly (a few thousandths) over

DIS-ASSEMBLY, RE-ASSEMBLY AND SERVICE INSTRUCTIONS [CONTINUED]

TO REMOVE CLUTCH [CONTINUED]

the shoulder of the crankshaft before the washer is put on. A quick test for this is to place the bushing on the shaft and see that it protrudes very slightly. It can be further tested by placing the bushing and the sprocket washer and the nut in position and seeing that when the nut is tightened, the bushing has sufficient pressure from the sprocket to hold it constant. (See Figure 21, page 14). It should not protrude too greatly as with tightening the nut, it is possible to belly the bushing so that the drum and sprocket assembly do not ride freely on the OD of the bronze bushing.

TO REPLACE CLUTCH

BE SURE TO REPLACE THE CLUTCH WITH SAME FACE OUT AS EXISTED BEFORE REMOVAL.

After tightening all parts, the means of tightening the nut is as follows: It can be done by impact, as it was removed, except by driving the wrench in the reverse direction. To make a more positive check, the starter assembly can be removed by the four bolts holding it to the shroud and the nut on the magneto and shaft can be held by a wrench while the sprocket is tightened.

TO REMOVE MAGNETO FLYWHEEL

Remove bolts holding air shroud (Ref. 51, Fig. 30, page 24). Disconnect "off and on" switch (Ref. 49, Fig. 30, Page 24). Next remove flywheel fan by removing the crankshaft nut. Reinstall the crankshaft nut halfway on crankshaft. Then strike nut sharply with a wooden hammer or leather mallet until magneto flywheel (See Figure 22, this page) comes loose from taper on shaft. A piece of wood may be used by placing it on top of the nut,

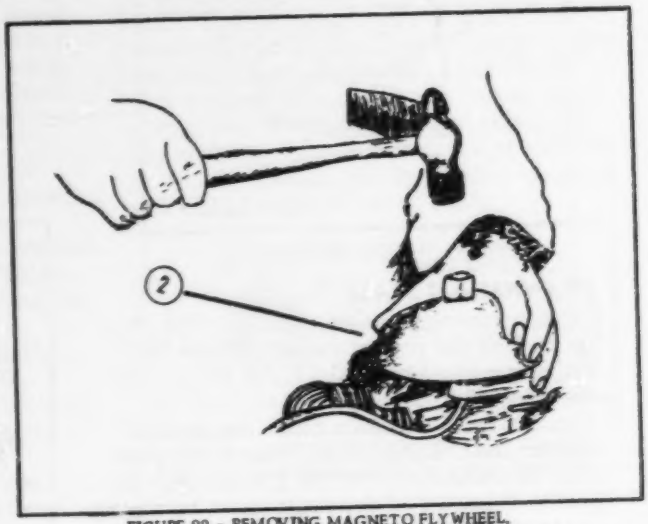


FIGURE 22 - REMOVING MAGNETO FLYWHEEL.
(Reference numbers shown on Legend, Figure 33.)

and hitting same with a steel hammer. This will expose condenser, breaker points and coil assembly. (See Figure 23, page 16).

TIMING THE ENGINE

NOTE:- The hub of the upper bearing cage is machined to fit the bore of the stator plate (See Figure 23, page 16). Be sure the stator plate is completely down on this pilot surface.

Loosen stator plate screws and turn the stator plate clockwise as far as is possible. Tighten the stator plate screws. This places the stator plate in proper position. (See Figure 23, page 16.)

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

DIS-ASSEMBLY, RE-ASSEMBLY AND SERVICE INSTRUCTIONS [CONTINUED]

TIMING THE ENGINE [CONTINUED]

Breaker point gap should be set at .020. Set points with cam follower at highest point of breaker cam. (See Figure 23, this page).

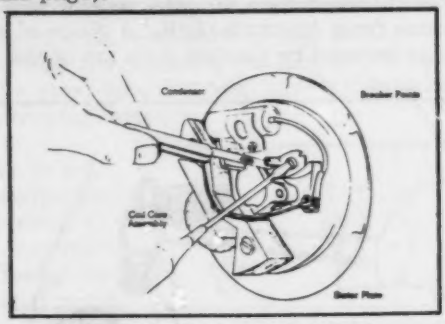


FIGURE 23 - SETTING BREAKER POINTS

CRANKSHAFT SEALS

The crankshaft seals, (Ref. 15, Fig. 30) located on the powerhead behind the ball bearing assembly (Ref. 12, Fig. 30) and on the center of the support plate (Ref. 41, Fig. 30) must maintain close sealing contact on the crankshaft in order to prevent loss of pressure from the crankcase. The inside diameter of the seals must be a minimum of .003 less than the outside diameter of the crankshaft where they fit. Replace if necessary.

REED PLATE

The reed plate is situated between the carburetor adapter and the crankcase. The reeds must lie flat to prevent loss of pressure from the crankcase when the piston is in its downward stroke. Should the engine lack power, or be hard to start, inspect the reed plate to see if reeds are flat.

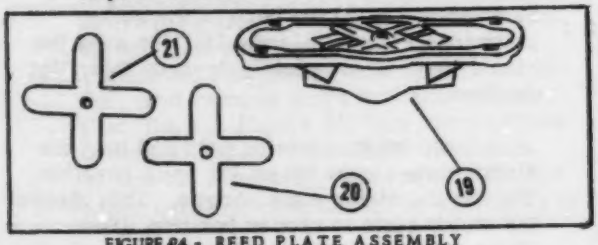


FIGURE 24 - REED PLATE ASSEMBLY
(Reference numbers shown on Legend, Figure 30.)

Remove all dirt which may have collected under the reeds. Reeds must seat tightly against the reed plate throughout their entire length with the least possible initial tension. A simple way to check for proper seating of the reeds is to blow and draw air through them with the mouth as you would play a harmonica.

Replace cracked, broken or warped reeds.

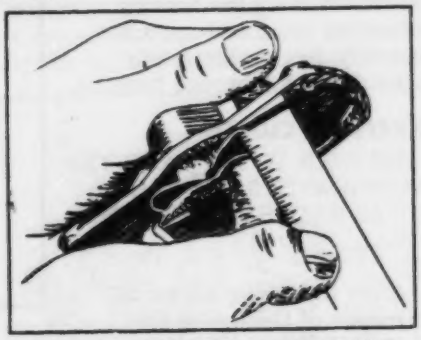


FIGURE 25 - CHECKING REED STOP SETTING.

Proper Reed Stop Setting is 3/16".

CARBURETOR DIS-ASSEMBLY

Carburetor disassembly is not recommended as a service function in the field

If difficulty with the carburetor cannot be corrected by the adjustment of the Main Mixture Adjusting Screw and the Idle Mixture Adjusting Screw (See Fig. 10, page 8 and Fig. 31, page 26) it is recommended that the carburetor be replaced.

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

DIS-ASSEMBLY, RE-ASSEMBLY AND SERVICE INSTRUCTIONS [CONTINUED]

STARTER

(refer to Figure 26, below)

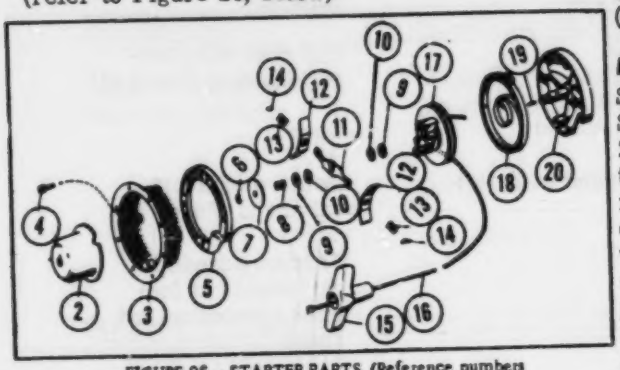


FIGURE 26 - STARTER PARTS (Reference numbers shown on Legend, Figure 32.)

DIS-ASSEMBLY

1) Loss of spring (Ref.8, Fig.26) can be avoided by holding washer (Ref. 7, Fig.26) in position with the hand while removing Truarc retaining ring (Ref. 6, Fig. 26) with a screwdriver.
2) Remove the following parts and assembly: Large Washer (Ref.7, Fig.26); Spring (Ref. 8, Fig.26); Washers (Ref. 9,10, Fig.26); Friction Shoe Assy.(Ref. 11,12,13,14, Fig.26); Washers (Ref. 10,9, Fig. 26).
3) To prevent spring rotation of rotor (Ref. 17, Fig.26) cord can be held while removing the 4 screws. Continue to hold assembly and remove flanges (Ref.3,5, Fig.26). Now the tension on the rewind spring can be relieved by releasing hold and allowing spring to rewind.

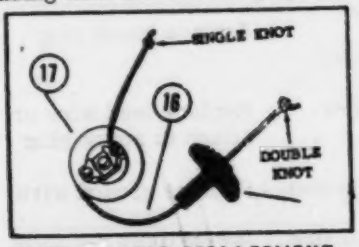


FIGURE 27 - CORD REPLACEMENT. (Reference numbers shown on Legend, Fig. 32).

When installing a new cord (Ref.16, Fig.26) in rotor (Ref.17, Fig.26) tie single knot in end. Thread cord through rotor hole. Then wind rope on rotor. Replace handle (Ref.15, Fig.26) tying with a double knot.

REWIND SPRING REPLACEMENT

Starting with the inside loop, remove Spring (Ref.18, Fig.26) from cover (Ref. 20, Fig.26) by pulling out one loop at a time, holding back rest of turns. When replacing with new spring, note position of spring loop. Spring holders furnished with replacement springs simplify the assembly procedure. Place spring in proper position as shown with the outside loop engaged around the pin. Then press spring into cover cavity, thus releasing the spring holder. A few drops of SAE #20 or #30 oil should then be applied to spring and light grease to cover shaft.

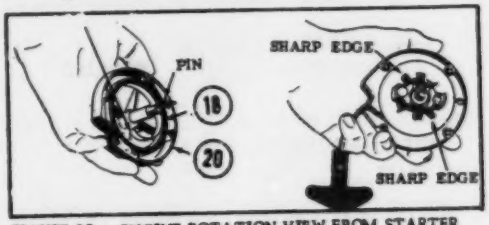


FIGURE 28 - ENGINE ROTATION VIEW FROM STARTER SIDE. (Reference numbers shown on Legend, Figure 32.)

ASSEMBLY

1) Place rotor (Ref.17, Fig.26) complete with cord and handle, into cover (Ref.20, Fig.26) and hook inside loop of spring (Ref.18, Fig.26) to rotor with aid of screwdriver.
2) Replace the following parts and assembly: Washers (Ref.9,10, Fig.26); Friction Shoe Assy. (Ref.11,12,13,14, Fig.26); Washers (Ref.10,9, Fig.26); Spring (Ref. 8, Fig.26) Large Washer (Ref. 7, Fig. 26); Truarc Retaining Ring (Ref. 6, Fig.26).
3) Starter cord is now completely wound on rotor. IMPORTANT: Two additional turns are then added in same direction for pretension.
4) Holding cord, the following parts are replaced: Flanges (Ref.5,3, Fig.26) and Screws (Ref. 4, Fig. 26)

REFERENCE NUMBERS ARE FOUND ON EXPLODED VIEWS IN REAR OF MANUAL.

CHECK CHART

CONDITION	POSSIBLE CAUSE	REMEDY
Failure of engine to start	No fuel in tank	Fill tank with proper mixture (see fuel)
	Shut-off valve closed	Open
	Fuel lines clogged with dirt and dust	Remove shut-off valve and clean
		Remove screen in carburetor at fuel inlet connection and clean.
	Main adjustment needle set too lean	Loosen main adjustment lock nut and set screw. (see carburetor adjustments)
	Flooded	Turn main adjustment screw clockwise until closed. Crank engine until it starts, then turn screw counter-clockwise approx. one turn open.
	Spark Plug shorted or fouled	Clean. Reset to .040 or replace
	"Off-On" switch shorting or wire grounded	Replace or repair wire
	Spark plug broken (cracked porcelain or electrodes broken)	Replace spark plug
	Magneto lead wire shorted, broken or disconnected	Replace lead wire or attach to spark plug
	Magneto ground wire cut or broken	Replace ground wire
	Magneto ground wire disconnected from shorting switch grounding against metal engine parts.	Reinstall

CHECK CHART [CONTINUED]

CONDITION	POSSIBLE CAUSE	REMEDY
Failure of engine to start (continued)	Magneto inoperative (no spark from lead wire)	Service magneto. Check point setting - should be .020.
	Condenser dead	Replace
	Coil dead	Replace
(Any one or a combination of the above will make the engine fail to start.)		
Engine hard to start	Water in gasoline or stale fuel mixture	Drain entire fuel system, refill with fresh oil. (see Fuel)
	Too much oil in fuel mixture	Drain and refill with correct mixture
	Engine over or under choked	If flooded by over choking see instructions under "flooded"
		If underchoked, choke and pull starter rope two or three times.
	Carburetor out of adjustment	See adjustments section
	Gasket leaks carburetor or reed plate	Replace gaskets
	Spark plug fouled, shorted or broken	Clean or replace
	Weak spark at lead wire	Service magneto
	Reed broken or standing open	Replace with new reed
Engine misses	Dirt in fuel line or carburetor	Remove and clean
	Improper carburetor adjustment.	See adjustments section

CHECK CHART [CONTINUED]

CONDITION	POSSIBLE CAUSE	REMEDY
Engine misses (continued)	Spark plug fouled, broken or incorrect gap setting	Clean or replace. Set gap to .040''
	Weak or intermittent spark at lead wire	Service magneto
	Reed broken or standing open	Replace with new reed
	Burnt or dirty points	Clean or replace. Set at .020
	Weak condenser	Replace
	Intermittent shorting in magneto assembly	Check for loose wires or loose assemblies
	Coil breaking down under heat	Replace
Engine lacks power	Worn piston rings	Replace
	Worn reed plate	Replace (see service, reed plates)
	Air cleaner clogged	Clean air cleaner
	Carburetor out of adjustment	See adjustments section
	Muffler or exhaust ports closed	Remove carbon. See engine maintenance
Engine overheats	Main adjustment too lean	See carburetion - adjustments section
	Insufficient oil in fuel mixture	Mix fuel as shown in instructions on starting
	Air flow obstructed	Clean flywheel and cylinder fins and screen on starter
Engine stalls under load	Carburetor adjustment too lean	See adjustments section - carburetor

CHECK CHART [CONTINUED]

CONDITION	POSSIBLE CAUSE	REMEDY
Engine will not accelerate	Idle adjusting screw set too lean	Reset - see carburetor adjustments
Engine starts and stops	Check valve too tight	See adjustments section - carburetor
Engine runs out lean in cut	Main adjustment set too lean	Carburetor internal difficulty - replace carburetor
Carburetor runs rich with main adjustment shut off	Loose main nozzle plug screw -- or damaged main nozzle gasket	Tighten -- or replace gasket
	Dirty air cleaner	Clean in approved cleaning solvent.
Chain not getting oil	Pressure line fittings loose	Tighten
	Oil valve not open	Open
	Reservoir empty	Refill -- see lubrciation
Chain cutting off to one side excessively	Chain filed on wrong angle either one or both sides or a dull side	Remove chain and sharpen properly
Excessive vibration in saw	Dull chain (chain will throw dust rather than chips when dull.)	Resharpen

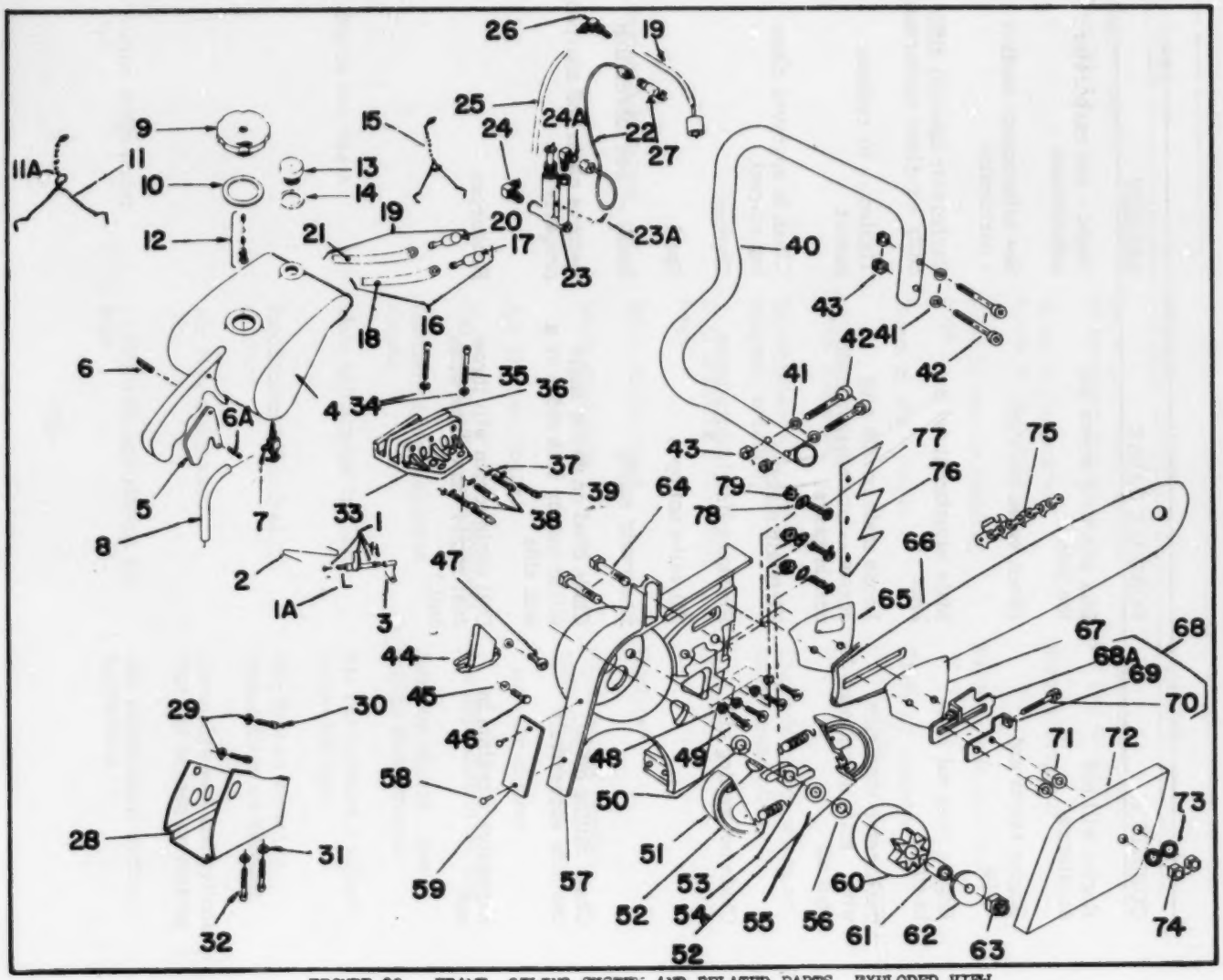


FIGURE 29 - FRAME, OILING SYSTEM AND RELATED PARTS, EXPLODED VIEW.

FIGURE 29 - FRAME, OILING SYSTEM AND RELATED PARTS, EXPLODED VIEW--CONTINUED

1	BELL CRANK ASSEMBLY
1A	BELL CRANK THROTTLE LINK
2	THROTTLE WIRE 3 3/4"
3	BELL CRANK BRACKET
4	GAS TANK
5	TRIGGER
6	SPRING PIN, SEL LOC 1/4 X 7/8
6A	SPRING PIN, SEL LOC 1/8 X 3/8
7	VALVE, SHUT OFF
8	GAS LINE - 9"
9	GAS CAP ASSEMBLY
10	GASKET, GAS CAP
11	HOLDER, SPRING CLIP GAS CAP
11A	SPACER
12	CHECK VALVE
13	OIL CAP BODY
14	OIL CAP GASKET
15	OIL CAP HOLDER -SPRING CLIP
16	SNAKE ASSEMBLY, GAS
17	SNAKE WEIGHT, WITH FILTER
18	SNAKE HOSE, 3 1/4"
19	SNAKE ASSEMBLY, OIL
20	SNAKE WEIGHT, OIL
21	SNAKE HOSE 6"
22	OIL LINE ASSEMBLY
23	PUMP ASSEMBLY
23A	SCREW, SEMS, 10-24X3/8
24	ELBOW FITTING W/BALL SEAT
24A	ELBOW FITTING
25	OIL LINE 8"
26	ELBOW FITTING - BARBED
27	STRAIGHT FITTING
28	LOWER BRACKET AND CARBURETOR SHIELD ASSEMBLY
29	LOCKWASHER, INTERNAL SHAKEPROOF
30	SCREWS, H. H.
31	LOCKWASHER, INTERNAL SHAKEPROOF
32	SCREWS, F. H.
33	UPPER BRACKET
34	LOCKWASHER, INTERNAL SHAKEPROOF
35	SCREWS, H. H.
36	NUTS, HEX
37	LOCKWASHER, INT. SHKPRF.
38	SCREW, S. H.
39	SCREW, H. H.
40	HANDLE BAR, ALUMINUM
41	WASHER, LOCK, INTERNAL SHAKEPROOF
42	BOLT, H. H.
43	NUT, H. H.
44	MUFFLER
45	LOCKWASHER, INTERNAL SHAKEPROOF
46	SCREWS, H. H.
47	SCREWS, F. H., SEMS
48	LOCKWASHER, COUNTER-SUNK
49	SCREW, S. H.
50	SPACER, STEEL .037
51	WOODRUFF KEY
52	CLUTCH SHOES
53	SPRING, CLUTCH
54	FLANGE, CLUTCH
--	CLUTCH ASSEMBLY
55	SPACERS, .010
56	SPACERS, .005
57	COVER PLATE
58	DRIVE SCREWS
59	MODEL PLATE
60	DRUM AND SPROCKET ASSEMBLY
61	BUSHING, BRONZE
62	WASHER, FLAT
63	NUT, FLEX LOC
64	SCREWS, H. H.
65	COVER PLATE GASKET
66	GUIDE BAR
67	GUIDE BAR GASKET
68	CHAIN TIGHTENER ASSY.
68A	SLIDING BRACKET
69	STATIONERY BRACKET
70	SCREW, F. H.
71	SPACERS
72	SPROCKET COVER PLATE
73	WASHER
74	NUTS, H. H.
75	CHAIN
76	ABUTMENT PLATE
77	SCREW, F. H. SLOTTED
78	LOCKWASHER, INT.SHKPRF.
79	NUTS, HEX

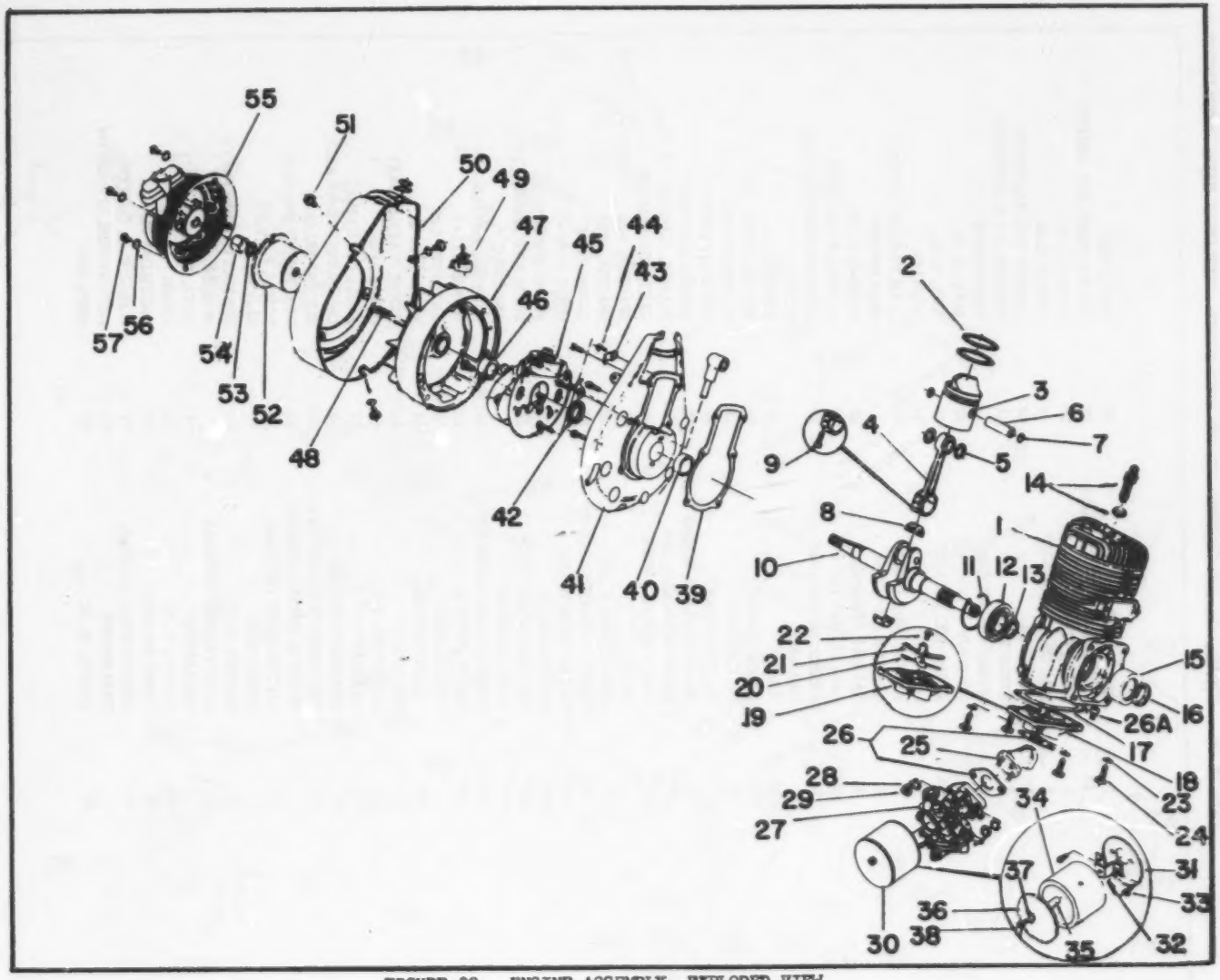


FIGURE 30 - ENGINE ASSEMBLY, EXPLODED VIEW.

FIGURE 30 - ENGINE ASSEMBLY, EXPLODED VIEW--CONTINUED

1	POWERHEAD ASSEMBLY
2	PISTON RINGS (2)
3	PISTON
4	CONNECTING ROD
5	THRUST WASHER - CONNECTING ROD
6	PISTON PIN
7	RETAINING RINGS (2) - PISTON PIN
8	NEEDLE BEARINGS
9	SCREWS, CONNECTING ROD (2)
10	CRANKSHAFT
11	RETAINING RING - CRANKSHAFT
12	BALL BEARING - CRANKSHAFT
13	RETAINING RING, CRANKSHAFT BEARING
14	SPARK PLUG AR6S
--	CRANKSHAFT SEAL AND COLLAR ASSEMBLY
15	COLLAR ONLY
16	SEAL, NON LOADED
17	GASKET, REED PLATE
18	REED PLATE ASSEMBLY (Including 19,20,21 and 22)
19	REED PLATE BODY
20	REED
21	REED GUARD
22	SCREW W/WASHER
23	LOCKWASHER 1/4"
24	SCREW, H. H.
25	CARBURETOR ADAPTER
26	GASKET, CARBURETOR ADAPTER
26A	SCREW, S. H.
27	CARBURETOR (See Carburetor)
28	LOCKWASHER, 1/4"
29	HEX NUT 1/4-20
30	AIR FILTER ASSEMBLY (including Ref. 31-38)
31	AIR FILTER BASE
32	AIR FILTER BRACKET
33	SCREWS, SEMS, FH W/WASHER
34	AIR FILTER
35	AIR FILTER SPACER
36	AIR FILTER COVER
37	LOCKWASHER 3/16"
38	SCREWS, SEMS, FH
39	GASKET, SUPPORT PLATE
40	SUPPORT PLATE, NEEDLE BEARING
41	SUPPORT PLATE ASSEMBLY
42	CRANKSHAFT SEAL, FLYWHEEL END
43	CLIP, CABLE (2)
44	SCREW, FH, SEMS
45	STATOR PLATE ASSEMBLY (See Magneto)
46	BREAKER CAM (See Magneto)
47	FLYWHEEL (See Magneto)
48	FLYWHEEL KEY (See Magneto)
49	TOGGLE SWITCH
50	AIR SHROUD, ALUMINUM
51	SCREWS, H.H. W/WASHER
52	STARTER CUP (See Starter)
53	WASHER 7/16" SHAKEPROOF
54	11/16X20 HEX NUT, - L. H.
55	STARTER ASSEMBLY (See Starter)
56	WASHER, LOCK, 3/16"
57	SCREW, F. H.

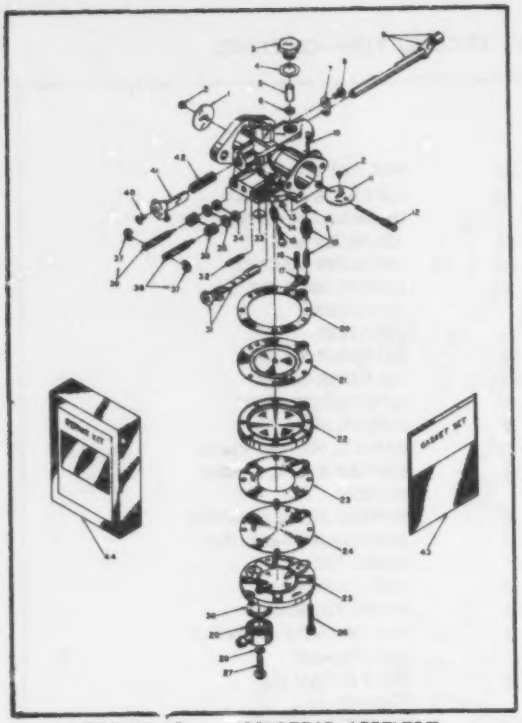


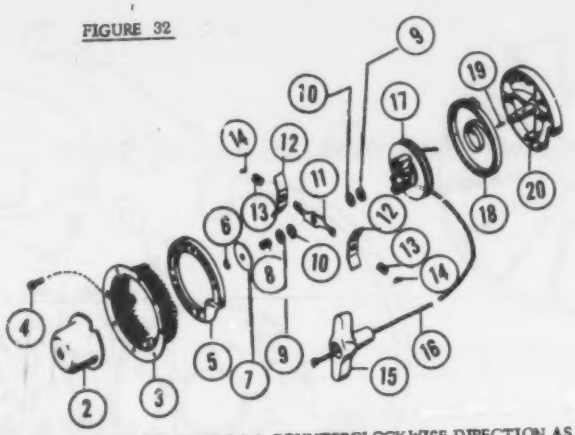
FIGURE 31 - CARBURETOR ASSEMBLY, EXPLODED VIEW.

1		THROTTLE SHUTTER
2		SHUTTER SCREW
3	**	FILTER PLUG SCREW
4	*	FILTER PLUG SCREW GASKET
5	**	FILTER FELT
6	**	FILTER SCREEN
7	**	THROTTLE SHAFT CLIP
8	**	THROTTLE CLIP SCREW
9		THROTTLE SHAFT & LEVER AY.
10		BODY SERVICE ASSEMBLY
11		CHOKE SHUTTER
12	**	FULCRUM PIN ASSY.
13	**	WELCH PLUG (NOZZLE)
14		IDLE SPEED SPRING
15		IDLE SPEED SCREW
16	**	DIAPHRAGM LEVER TENSION SPRING
17	**	DIAPHRAGM LEVER
18	*	INLET SEAT GASKET
19	**	INLET NEEDLE AND SEAT ASSEMBLY
20	*	DIAPHRAGM COVER GASKET
21	*	DIAPHRAGM ASSEMBLY
22		DIAPHRAGM COVER
23	*	FUEL PUMP BODY GASKET
24	*	FUEL PUMP DIAPHRAGM
25		FUEL PUMP BODY
26		BODY SCREW
27		FUEL CONNECTION SCREW
28	*	FIBER GASKET
29		FUEL INLET CONNECTION
30	*	FUEL INLET CONNECTION GASKET
31		CHOKE SHAFT AND LEVER ASSEMBLY
32		CHOKE FRICTION SPRING
33	**	WELCH PLUG (LARGE)
34	*	SQUARE RING
35	**	ADJUSTMENT PACKING WASHER
36	**	ADJUSTMENT COMPRESSION SPRING
37		SPRING RETAINING RING
38	**	MAIN MIXTURE ADJUSTMENT AND RETAINING RING ASSY. (MAIN MIXTURE ADJ.SCREW)
39	**	IDLE MIXTURE ADJUSTMENT AND RETAINING RING ASSY. (IDLE MIXTURE ADJ.SCREW)
40	**	STOP LEVER SCREW
41		THROTTLE STOP LEVER
42	**	THROTTLE FRICTION SPRING
43	**	GASKET SET
44		REPAIR KIT

*---INCLUDED IN GASKET SET (43)

**--INCLUDED IN REPAIR KIT (44)

FIGURE 32



THIS STARTER OPERATES IN A COUNTERCLOCKWISE DIRECTION AS VIEWED FROM STARTER SIDE. BE SURE TO NOTE WHEN DISASSEMBLING POSITIONS OF PARTS 11, 12, and 18, AND BE SURE TO REPLACE AS REMOVED. ALSO CORD 16, SHOULD BE WOUND IN A COUNTER-CLOCKWISE DIRECTION.

FIGURE 32 - REWIND STARTER ASSEMBLY, EXPLODED VIEW.

1	STARTER COMPLETE
2	STARTER CUP
3	MTG. FLANGE & SCREEN ASSEMBLY
4	MACHINE SCREW
5	MIDDLE FLANGE
6	RETAINER RING
7	BRAKE RETAINER WASHER
8	BRAKE SPRING
9	BRAKE WASHER
10	FIBER WASHER
	ASSEMBLY, FRICTION SHOE (Includes Ref. 11 through 14 below)
11	BRAKE LEVER
12	FRICTION SHOE PLATE
13	FRICTION SHOE SPRING
14	SPRING RETAINER PLATE
15	"T" SHAPED GRIP
16	CORD
17	ROTOR
18	REWIND SPRING
19	CENTERING PIN
20	COVER

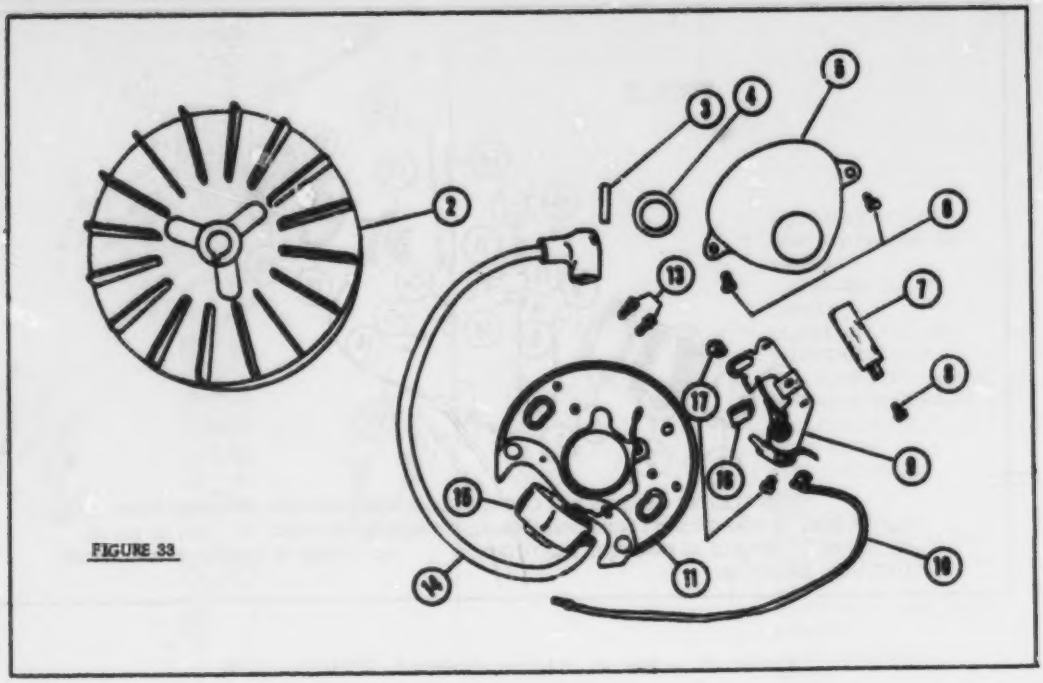


FIGURE 33 - MAGNETO ASSEMBLY, EXPLODED VIEW.

1	MAGNETO, COMPLETE
2	ROTOR FLYWHEEL
3	FLYWHEEL KEY
4	BREAKER CAM
5	COVER, BREAKER POINT SET
6	SCREWS, COVER
7	CONDENSER
8	SCREW, CONDENSER
9	BREAKER POINT SET
10	IGNITION CUT-OFF WIRE
11	STATOR PLATE ASSEMBLY (Includes Stator Plate, Coil, Core, Condenser, Breaker Pts.)
13	SCREWS, STATOR PLATE, R.H.
14	SHIELDED IGNITION WIRE ASSY.
15	COIL
16	CAM WIPER FELT
17	SCREWS, BREAKER POINT

SPECIAL MAINTENANCE TOOL LIST

PART NO.	DESCRIPTION
G318923	Allen Wrench 3/16x7/8x4-1/4"
G318916A	Allen Wrench 5/32x7/8x4-1/4"
G318906A	Feeler Gauge .030
G318906C	Feeler Gauge .020-.040
G318906D	Depth Gauge
G318904	Round File 1/4"
G318907A	File Guide
G319011	Repair Kit, Chain
G317999	Standard Ignition Set
G318957	Screwdriver, 8"
G318922	Wrench, Box, 9/16 x 5/8"

APPENDIX I

REFERENCES

1. Lubrication
LO 5-3695-200-15

Lubrication Order for Saw, Chain; Gasoline Engine Driven, 18 Inch Cut (L-M Mfg. Co. Strunk Model G-3).

2. Supply Publications
TM 5-3695-200-25P

Organizational, Field and Depot Maintenance Repair Parts and Special Tool Lists.

APPENDIX II

MAINTENANCE ALLOCATION CHART

1. General

This maintenance allocation chart explains all maintenance and repair functions authorized for the various echelons.

2. Maintenance

Mainteance is any action taken to keep material in a serviceable condition or to restore it to serviceability when it is unserviceable. Maintenance of material includes the following:

a. Service. To clean, to preserve, and to replenish fuel and lubricants.

b. Adjust. To regulate periodically to prevent malfunction.

c. Inspect. To verify serviceability and to detect incipient mechanical failure by scrutiny.

d. Test. To verify serviceability and to detect incipient mechanical failure by use of special equipment such as gages, meters, etc.

e. Replace. To substitute serviceable assemblies, subassemblies, and parts for unserviceable components.

f. Repair. To restore an item to serviceable condition through correction of a specific failure or unserviceable condition. This function includes but is not limited to inspecting, cleaning, preserving, adjusting, replacing, welding, riveting, and straightening.

g. Overhaul. To restore an item to completely serviceable condition as prescribed by serviceability standards developed and published by heads of technical services. This is accomplished through employment of the technique of "inspect and repair only as necessary" (IROAN). Maximum utilization of diagnostic and test equipment is combined with minimum disassembly of the item during the overhaul process.

h. Rebuild. To restore an item to a standard as near as possible to original or new condition in appearance, performance and life expectancy. This is accomplished through the maintenance technique of complete disassembly of the item, inspection of all parts or components, repair or replacement of worn or unserviceable elements using original manufacturing tolerances and/or specifications, and subsequent reassembly of the item.

3. Explanation of Columns

a. Functional Group. The functional group is a numerical group set up on a functional basis. The applicable functional grouping indexes are taken from the Corps of Engineers Functional Grouping Indexes, and appear on the Maintenance Allocation Chart in their correct numerical sequence. These indexes are normally set up according to their proximity to each other and their function.

b. Components and Related Operation. This column contains the functional index group heading, subgroup headings, and a brief description of the part starting with the noun name. It also designates the operation to be performed, such as service, adjust, inspect, test, replace, repair, overhaul, and rebuild.

c. Echelon of Maintenance. This column contains the various echelons of maintenance by number designation. An X in the appropriate echelon column and in line with an indicated maintenance function, indicates the lowest echelon responsible for performing that particular function. The X does not necessarily indicate that repair parts will be stocked at that level. Echelons higher than the echelon indicated by X are authorized to perform the indicated function.

d. Remarks. This column is used for special instructions concerning a particular function as to special tools or test equipment required, or to cross reference maintenance functions.

MAINTENANCE ALLOCATION CHART

Functional group	Components and related operation	Echelons of maintenance 1	2	3	4	5	Remarks
01	ENGINE						
0100	ENGINE ASSEMBLY						
	Engine						
	Service	X					
	Inspect	X					
	Test		X				
	Replace		X				
	Repair		X				
	Overhaul				X		
0102	CRANKSHAFT						
	Bearings, seals						
	Replace			X			
	Crankshaft						
	Replace			X			
0104	PISTONS, CONNECTING RODS						
	Bearings, Bushings						
	Replace			X			
	Piston						
	Replace			X			
	Rings, pins						
	Replace			X			
	Rod, connecting						
	Replace			X			
0105.1	VALVES						
	Reed plate assembly						
	Repair		X				
	Replace		X				
0111.1	HAND CRANKING DEVICES						
	Starter, engine						
	Replace		X				
	Repair		X				
03	FUEL SYSTEM						
0301	CARBURETOR						
	Carburetor						
	Adjust	X					
	Replace		X				
	Repair			X			Install kit
0304	AIR CLEANER:						
	Air cleaner assembly						
	Service	X					
0306	TANKS, LINES, FITTINGS						
	Tank, fuel						
	Service	X					
	Caps, filler						
	Replace		X				
	Line assembly fuel						
	Replace		X				Fabricate
	Valve, shutoff						
	Replace		X				

Functional group	Components and related operation	Echelons of maintenance 1	2	3	4	5	Remarks
04	EXHAUST SYSTEM						
0401	MUFFLER AND PIPES						
	Muffler, exhaust						
	Replace		X				
06	ELECTRICAL SYSTEM (ENGINE AND VEHICULAR)						
0604.2	MAGNETO						
	Magneto -						
	Adjust		X				
	Replace		X				
	Repair			X			Install kit
0604.6	IGNITION COIL: WIRING, SPARK PLUGS						
	Spark plug						
	Service		X				
	Adjust		X				
	Replace		X				
	Wiring, spark plug						
	Replace		X				
70	MACHINE TOOLS AND RELATED EQUIPMENT						
7011.4	CHAIN SAWS						
	Blade, chain saw						
	Adjust	X					
	Inspect	X					
	Replace		X				
	Repair		X				
	Bar, guide						
	Service	X					
	Replace		X				
	Repair		X				
7011.6	TAIL STOCK						
	Line assembly, oil						
	Replace		X				Fabricate
	Pump assembly, oil						
	Service		X				
	Replace		X				
7011.7	DRIVING HEAD						
	Clutch assembly						
	Replace		X				
	Repair		X				
	Sprocket assembly						
	Replace		X				

APPENDIX III

BASIC ISSUE ITEMS LIST

Section I. INTRODUCTION

1. General

Appendix III lists the accessories, tools, and publications required in 1st echelon maintenance and operation, initially issued with, or authorized for the chain saw.

2. Explanation of Columns

a. Source Codes. The information provided in each column is as follows:

(1) *Technical services.* The basic number of the Technical Service assigned supply responsibility for the item is shown. Those spaces with no number shown are Corps of Engineers supply responsibility. Other Technical Service basic numbers are:

10—Quartermaster Corps
12—Adjutant General's Corps

(2) *Source.* The selection status and method of supply are indicated by the following code symbol:

P—Applied to repair parts which are high mortality parts, procured by technical services, stocked in and supplied from the technical service depot system, and authorized for use at the indicated maintenance echelon.

(3) *Maintenance.* The lowest maintenance echelon authorized to use, stock, install, or manufacture the part is indicated by the following code symbol:

O—Organizational Maintenance (1st and 2d Echelons)

b. Federal Stock Numbers. When a Federal stock number is available for a part, it will be shown in this column, and used for requisitioning purposes.

c. Description. The item name and a brief description of the part are shown.

d. Unit of Issue. Where no abbreviation is shown in this column, the unit of issue is "each."

e. Expendability. Those items classified as nonexpendable are indicated by letters NX. Items not indicated by NX are expendable.

f. Quantity Authorized. This column lists the quantities of repair parts, accessories, tools, or publications authorized for issue to the equipment operator or crew as required.

g. Quantity Issued with Equipment. This column lists the quantities of repair parts, accessories, tools, or publications that are initially issued with each item of equipment. Those indicated by an asterisk are to be requisitioned through normal supply channels as required.

3. Index to Federal Supply Code for Manufacturers

05665-L-M Mfg. Co., Inc.

4. Comments and Suggestions

Suggestions and recommendations for changes to the Basic Issue Items List will be submitted on DA Form 2028 to the Commanding General, U. S. Army Engineer Maintenance Center, ATTN: EMCJM, Corps of Engineers, P. O. Box 119, Columbus 16, Ohio. Direct communication is authorized.

Section II. BASIC ISSUE ITEMS LIST

Source code: Technical service	Source	Maintenance	Recoverability	Federal stock No.	Description	Unit of issue	Expendability	Quantity Authorized	Quantity issued with equipment
					GROUP 26 ACCESSORIES, PUBLICATIONS, TEST EQUIPMENT AND TOOLS				
					2602.1 ACCESSORIES				
10	P	O		7520-559-9618	CASE, MAINTENANCE AND OPERATION MANUALS: cotton duck, water repellant, mildew resistant.			1	1
					2602.2 COMMON TOOLS				
10	P	O		5120-278-1283	SCREWDRIVER, FLAT TIP: plastic handle, flared tip, 5/16 in. w, 6 in. lg blade.			1	*
10	P	O		5120-184-8642	WRENCH, BOX AND OPEN END, COMBINATION: 9/16 in. opening, 12 point, 15-deg angle and offset, 7 in. lg.			1	*
					2602.3 added. Sec. chg 7				
					2602.4 PUBLICATIONS				
12					DEPARTMENT OF THE ARMY, ORGANIZATIONAL, FIELD AND DEPOT MAINTENANCE REPAIR PARTS AND SPECIAL TOOL LISTS TM 5-3695-200-25P			2	2
12					DEPARTMENT OF THE ARMY LUBRICATION ORDER LO 5-3695-200-15			1	1

APPENDIX IV
MAINTENANCE AND OPERATING SUPPLIES

ITEM	Component Application	Source of supply	Federal Stock No.	Description	Quantity required for initial operation	Quantity required for 8 hours operation	Notes
1	0306 TANK (1)	10	9130-160-1818 (2)	**GASOLINE, AUTOMOTIVE COMBAT:** Bulk	36.25 oz (3)	3.76 gal	(1) Fuel mixture is in ratio of 1 part oil to 16 parts gasoline.
	(1)	10	9150-231-6639 (2)	**OIL, LUBRICATING** 5 gal. drums, Grade 2190	3.75 oz (3)	30 oz (4)	(2) See SM10-1-C4-1 for additional data and equisitioning procedure.
							(3) Tank capacity is 40 oz.
2	7011.6 TAIL STOCK PUMP, CHAIN OILER (6)	10	9150-231-6639 (2)	**OIL, LUBRICATING** 5 gal. drums, Grade 2190	6 oz (5)	1 qt.	(4) Average fuel consumption is .50 gal per hr of continuous operation.
							(5) Tank capacity: tank is part of compartmented fuel tank.
	(6)	10	9150-261-8157 (2)	**OIL, LUBRICATING** 1 gal can, Grade 2075	6 oz (5)	1 qt.	(6) See LO 5-3695-200-15 for grade applications and replenishment intervals.

[AG 413.8 (1 Aug 60)]

By Order of *Wilber M. Brucker*, Secretary of the Army:

L. L. LEMNITZER,
General, United States Army,
Chief of Staff.

Official:

R. V. LEE,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

To be distributed in accordance with DA Form 12-7 requirements for TM 5 series (Unclas) plus the following additional formula:

USASA (2)
DCSLOG (1)
CNGB (1)
Tech Stf, DA (1) except
CofEngrs (8)
USA Abn & Elct Bd (2)
USARADCOM (2)
USARADCOM Rgn (2)
MDW (1)
Seventh, US Army (2)
EUSA (2)
Corps (2)
Div (2)
Engr Bde (1)
USAES (100)
AMS (3)
JBUSMC (1)
Engr Maint Cen (36)

Units org under fol TOE:
5-48 (2)
5-157 (5)
5-262 (5)
5-267 (1)
5-278 (5)
5-279 (2)
5-387 (2)
5-500 EA,EB,GD (2)

NG: State AG (3); units—same as Active Army except allowance is one copy to each unit.

USAR: Same as Active Army except allowance is one copy to each unit.

For explanation of abbreviations used, see AR 320-50.

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